

蹄 盖 蕨 属 的 分 类

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THE CLASSIFICATION OF ATHYRIUM ROTH

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德国植物学家 Roth 1799 年根据瑞典植物学家 Linnaeus 定名的 *Polypodium filix-femina* L. 为模式, 建立了蹄盖蕨属 *Athyrium* Roth, 得到各国植物学家所承认。但一百多年来, 由于本属植物形体变异较大, 孢子囊群多种多样, 属下分类比较困难, 以致造成今日学名上的混乱!

本属是薄囊蕨纲中一个较大的属, 分布世界暖温带, 尤以中国西南部、喜马拉雅和日本种类繁多, 估计全世界约有 300 多种, 中国现知有 200 多种。

作者在编写《中国植物志》第三卷时, 对本属植物标本和有关文献进行了较深入的分析研究, 除确信本属是一个自然分类群外, 并根据植物的根状茎(横走、直立或斜升)、叶的分裂度(一回、二回或三回羽状等)、鳞片的形式、毛的类型以及叶羽、羽轴或小羽轴上有刺或无刺, 锯齿的类型, 孢子形态。同时也考虑到脉序的特征(上先出、下先出或对生), 孢子囊群的形式以及囊群盖的有无等。将本属划分 2 亚属 5 组 10 系, 如下:

蹄盖蕨属 *Athyrium* Roth

亚属 1. 蹄盖蕨亚属 新亚属

羽轴和小羽轴上面无刺状凸起。

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本研究得到中国科学院科学基金的赞助, 并蒙秦仁昌教授指导, 谨致以谢意。

Subgen. 1. *Athyrium* Subgen. nov.

Rhaches pinnarum et rhaches pinnularum supra absque prominentiis spiniformibus

Typus subgen.: *Athyrium filix-femina* (L.) Roth

组 1. 耳蕨状蹄盖蕨组 新组

根状茎短而直立，叶簇生，叶柄基部不膨大，不向下尖削，无气囊体，或者稍微加粗，向下尖削，有气囊体。但羽片基部上侧明显呈耳状凸起，孢子有周壁。

Sect 1. *Polystichoides* Ching et Y. T. Hsieh, sect. nov.

Rhizoma breve, erectum. Frondes caespitosae, stipes basi nec sufflatus versus basin nec acutatus, absque pneumatophoris vel is basi parum incrassatus, versus basin attenuatus, pneumatophoris; pinna basi in sperne latere prominentia manifeste auriculata. Sporae episporiatae.

Typus sect.: *Athyrium macrocarpum* (Bl.) Bedd.

系 1. 大果蹄盖蕨系 新系

叶柄基部不加粗，不向下尖削。叶为简单的一回羽状，少为二回羽状。孢子囊群较大。

Ser. 1. *Macrocarpa* Ching et Y. T. Hsieh, ser. nov.

Stipes basi nec incrassatus nec basin versus attenuatus. Lamina simpliciter pinnata, rare bipinnata. Sorus major.

Typus ser.: *Athyrium macrocarpum* (Bl.) Bedd.

系 2. 喜马拉雅蹄盖蕨系 新系

叶柄基部稍微加粗，向下尖削，有气囊体。叶为二回或三回羽状。孢子囊群较小。

Ser. 2. *Fimbriata* Ching et Y. T. Hsieh, ser. nov.

Stipes basi leviter incrassatus, basin versus attenuatus, cum pneumatophoris. Lamina bipinnata vel tripinnata. Sorus minor.

Typus ser.: *Athyrium fimbriatum* (Wall.) Moore

组 2. 蹄盖蕨组 新组

根状茎短而直立，叶簇生，叶柄基部加粗，向下尖削，有气囊体。中部的羽片基部上侧的小羽片或裂片较下侧的为大，或者基部一对等大。孢子有周壁或无周壁。

Sect. 2. *Filix-femina* Ching et Y. T. Hsieh, sect. nov.

Rhizoma breve erectum. Frondes caespitosae, stipes basi incrassatus, versus basin attenuatus, pneumatophoris. In basi pinnae mediae pinnula vel lobus superne lateralis major quam Pinnula vel lobus inferne lateralis, vel eis aequalis. Sporae episporiatae vel non.

Typus sect.: *Athyrium filix-femina* (L.) Roth

系 3. 无盖蹄盖蕨系 新系

叶为披针形或长圆形, 孢子囊群无盖。

Ser. 3. *Exindusiata* Ching et Y. T. Hsieh, ser. nov.

Lamina lanceolata vel oblonga. Sorus non indusiatus.

Typus ser.: *Athyrium distentifolium* Tausch ex Opiz

系 4. 蹄盖蕨系 新系

叶为卵状长圆形或卵状披针形, 少为披针形。孢子囊群有盖。孢子无周壁。

Ser. 4. *Filix-femina* Ching et Y. T. Hsieh, ser. nov.

Lamina ovato-oblonga vel ovato-lanceolata, raro lanceolata. Sorus indusio instructus. Sporae non episporiatae.

Typus ser.: *Athyrium filix-femina* (L.) Roth

组 3. 日本蹄盖蕨组 新组

根状茎短或长, 斜升, 叶簇生, 或者根状茎长而横走, 叶近生或远生。叶柄基部不加粗, 不向下尖削, 无气囊体。中部的羽片基部下侧的小羽片或裂片较上侧的为大, 或者基部一对等大。孢子有周壁。

Sect. 3. *Niponica* Ching et Y. T. Hsieh, sect. nov.

Rhizoma breve vel longum adscendens vel serpens. Frondes caespitosae vel semotae, stipes basi nec incrassatus nec versus basin attenuatus, absque pneumatophoris; in basi pinnae mediae pinnula vel lobus inferne lateralis major quam Pinnula vel lobus sperne lateralis, vel eis aequalis. Sporae episporiatae.

Typus sect.: *Athyrium niponicum* (Mett.) Hance

系 5. 日本蹄盖蕨系 新系

根状茎短或长, 斜升, 叶簇生。叶片通常较阔, 三角状卵形, 少为披针形。

Ser. 5. *Niponica* Ching et Y. T. Hsieh, ser. nov.

Rhizoma breve adscendens. Frondes caespitosae, lamina

saepe lata, deltoideo-ovata raro lanceolata.

Typus ser.: *Athyrium niponicum* (Mett.) Hance

系 6. 苍山蹄盖蕨系 新系

根状茎长而横走，叶远生。叶片较狭，长圆形或卵状长圆形。

Ser. 6. *Biserrulata* Ching et Y. T. Hsieh, ser. nov.

Rhizoma longum serpens. Frondes semotae, lamina oblonga vel ovato-oblonga.

Typus ser.: *Athyrium biserrulatum* Christ

亚属 II. 刺蹄盖蕨亚属 新亚属

叶轴、羽轴和小羽轴上面或多或少有刺状凸起。

Subgen. II. *Echinoathyrium* Ching et Y. T. Hsieh, subgen. nov.

Rhachis frondis et ea pinnarum et ea pinnularum supra plus minusve prominentiis spiniformibus.

Typus subgen.: *Athyrium mackinnoi* (Hope) C. Chr.

组 4. 硬刺蹄盖蕨组 新组

鳞片较大，卵状披针形、阔披针形，钻状线形，少为线形。沿整个羽轴纵走或仅羽轴顶部上面有短而坚硬的刺状凸起，但小羽轴上面通常无刺状凸起。

Sect. 4. *Echinoathyrium* Ching et Y. T. Hsieh, sect. nov.

Palea major ovato-lanceolata vel lato-lanceolata vel sublatto-linearis, rare linearis. Rhachis pinnarum per totam longitudine vel supra in parte apicali prominentia spiniforme breviduro, sed rhachis pinnularum prominentia non.

Typus sect.: *Athyrium mackinnoi* (Hope) C. Chr.

系 7. 川滇蹄盖蕨系 新系

孢子囊群各种形式：圆球形、长圆形、肾形、线形顶部弯曲（弯钩形）或马蹄形。背生或侧生小脉上。

Ser. 7. *Mackinnoiana* Ching et Y. T. Hsieh, ser. nov.

Sora polymorpha, i. e. globosa, oblonga, nephroidea, lineares sed apice curva et hippocrepica, ii in dorso nervuli vel in latere nervuli inserti.

Typus ser.: *Athyrium mackinnoi* (Hope) C. Chr.

系 8. 轴果蹄盖蕨系 新系

孢子囊群为铁角蕨型，通常呈线形，直伸或稍弯曲，生小脉一侧或两侧（侧生）。

Ser. 8. *Epiraches* Ching et Y. T. Hsieh, ser. nov.

Sorus asplenioideus, plerumque linearis, rectus vel leviter curvatus, in uno-latere nervuli adaxiali vel duabus latere nervuli insertus.

Typus ser.: *Athyrium epirachis* (Christ) Ching

组 5. 软刺蹄盖蕨组 新组

鳞片较小或较大，通常为线形，少为披针形。羽轴和小羽轴上面的刺呈芒刺状，长而细，密生。

Sect. 5. *Strigoathyrium* Ching et Y. T. Hsieh, sect. nov.

Palea minor vel major, plerumque linearis, rare lanceolata. Rhachis pinnarum et ea pinnularum supra strigis aristatis, longis et tenuibus dense inserta.

Typus sect.: *Athyrium strillosum* Moore

系 9. 软刺蹄盖蕨系 新系

根状茎短或长，直立，叶簇生。鳞片较小，线状披针形或线形、少为披针形。孢子无周壁。

Ser. 9. *Strigillosa* Ching et Y. T. Hsieh, ser. nov.

Rhizoma breve erectum. Frondes caespitosae. Palea minor linearis rare lanceolata. Sporae episporiatae non.

Typus ser.: *Athyrium strigillosum* Moore

系 10. 篦齿蹄盖蕨系 新系

根状茎长而横走，叶远生。鳞片较大，披针形。孢子有周壁。

Ser. 10. *Pectinata* Ching et Y. T. Hsieh, ser. nov.

Rhizoma longum serpens. Frondes semotae. Palea major lanceolata. Sporae episporiatae.

Typus ser.: *Athyrium pectinatum* (Wall.) Presl

ABSTRACT

The genus *Athyrium* is a larger one in the class *Leptos-*

说明：蹄盖蕨属分种检索表见《中国植物志》第三卷第二分册。

porangiatae. There are about 300 species which mainly distribute in the warm temperate zone of the world. In the region of southwest China, Himalayas and Japan, there are more species than in other regions and the morphology of plants and the shapes of the sori here are various, so it is difficult to classify them.

The author of this paper classifies the genus *Athyrium* into two subgenera which include five sections and ten series, according to the characteristics of rhizoma (creeping, erect or ascending), the degree of frond pinnation (pinnate, bipinnate or tripinnate), the shapes of scales, the hairs types, whether there are spines on the rhachis of fronds, pinna and pinnules or not, the types of serrature, spores morphology. At the same time, the characteristics of venation (catadromous, anadromous or opposite), the shape of sori and whether the sori have indusia or not and their shapes, etc. are used,

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